



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,318	08/31/2001	Tore Nauta	NL 000483	2147
24737	7590	07/08/2005	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			STULTZ, JESSICA T	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 07/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,318

Applicant(s)

NAUTA ET AL.

Examiner

Jessica T. Stultz

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/22/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 22 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0801</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group 1, claims 1-12, in the response dated March 22, 2005 is acknowledged. The traversal is on the ground(s) that searching the non-elected claims would not impose an undue burden on the examiner. This is not found persuasive because searching the non-elected claims would require additional searching and would place an undue burden on the examiner since these claims include more limitations, specifically wherein the waveguide is provided with means for selectively coupling in light for a part of the exit face, which would need to be additionally searched, and do not include the system situated on the side of a display device as in the elected display device claims.

Specification

The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use. The following section headings are preferably used within the specification where appropriate and each of the numbered items should appear in upper case, without underlining or bold type, as section headings.

1. Background of the Invention.
2. Summary of the Invention.
3. Brief Description of the Drawings.
4. Detailed Description of the Preferred Embodiments.

Claim Objections

Claims 6-7 and 11 are objected to because of the following informalities: in claim 6, line 1, "A picture display device as claimed in claim 5" should be "A device of claim 5", since there

is no mention of a picture display device in claim 5; in claim 7, line 2, "The device of claim 1" should be "The device of claim 6", since there is no selectively switchable light switch in dependent claim 1; in claim 11, line 2, "includes drive unit" should be "includes a drive unit". Appropriate correction is required.

Double Patenting

Claims 1-4, 8, 11, and 22 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 6-7, 10, and 12 of U.S. Patent No. 6,741,304, herein referred to as Nauta et al '304. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of Nauta et al '304 read on the display device of the present application.

Regarding claim 1, Nauta et al '304 discloses a display device comprising a display panel having a first light-transmissive substrate provided with electrodes at the area of pixels arranged in rows and columns, a second light-transmissive substrate, an electro-optic material (wherein liquid crystalline material is electro-optic material) between the two substrates, and an illumination system situated on the side of the second substrate remote from the electro-optical material, the illumination system including an optical waveguide of optically transparent material having an exit face facing the display panel, wherein the waveguide is adapted for selectively coupling out light for a group of rows of pixels or a group of columns of pixels and for coupling in light in a direction which is substantially parallel to the exit face (claims 1-2, 6-7, 10).

Regarding claims 2-3, Nauta et al '304 discloses the limitations therein (claims 1, 6-7).

Regarding claims 4 and 8, Nauta et al '304 discloses the limitations therein (claims 6-7 and 12).

Regarding claim 11, Nauta et al '304 discloses the limitations therein (claim 10).

Regarding claims 22, Nauta et al '304 discloses the limitations therein (claim 12).

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Claims 1-4, 8, 11, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Nauta et al '304.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Nauta et al '304 discloses a display device comprising a display panel having a first light-transmissive substrate provided with electrodes at the area of pixels arranged in rows and columns, a second light-transmissive substrate, an electro-optic material (wherein liquid crystalline material is electro-optic material) between the two substrates, and an illumination system situated on the side of the second substrate remote from the electro-optical material, the illumination system including an optical waveguide of optically transparent material having an exit face facing the display panel, wherein the waveguide is adapted for selectively coupling out light for a group of rows of pixels or a group of columns of pixels and for coupling in light in a direction which is substantially parallel to the exit face (claims 1-2, 6-7, 10).

Regarding claims 2-3, Nauta et al '304 discloses the limitations therein (claims 1, 6-7).

Regarding claims 4 and 8, Nauta et al '304 discloses the limitations therein (claims 6-7 and 12).

Regarding claim 11, Nauta et al '304 discloses the limitations therein (claim 10).

Regarding claims 22, Nauta et al '304 discloses the limitations therein (claim 12).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-9, 11-12, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Jelley et al.

Regarding claim 1, Jelley et al discloses a display device comprising a display panel having a first light-transmissive substrate provided with electrodes at the area of pixels arranged in rows and columns (Column 2, lines 22-68, wherein the first transparent substrate is “24” with electrodes “30” corresponding to pixels “36”, Figures 1-2), a second light-transmissive substrate (Column 2, lines 22-68, wherein the second transparent substrate is “22”, Figures 1-2), and electro-optic material (Column 2, lines 22-68, wherein the electro-optic material is liquid crystal material “20”, Figures 1-2) between the two substrates (Figures 1-2), and an illumination system situated on the side of the second substrate remote from the electro-optical material, the illumination system including an optical waveguide of optically transparent material having an exit face facing the display panel (Column 3, lines 25-41, wherein the illumination device is “14” including transparent polymeric waveguide “40” with an exit face “48”, Figures 1-2) and wherein the waveguide is adapted for selectively coupling out light for a group of rows of pixels or a group of columns of pixels and for coupling in light in a direction which is substantially parallel to the exit face (Column 3, line 25-column 4, line 55, wherein the waveguide “40” is coupled to pixels “36” by selectively illuminating the pixels from sites “48”, Figures 1-2).

Regarding claims 2-3, Jelley et al further discloses that the illumination system includes a backlight and a waveguide having an entrance face for light extending transversely to the exit face, which is coupled to the backlight (Column 1, lines 40-57, wherein the liquid crystal is

Art Unit: 2873

illuminated by a backlight, and Column 5, line 51-Column 6, line 31, wherein the waveguide “102” receives light from a backside illuminator “100”, Figures 1-2 and 4), wherein the backlight has an entrance face at least one of the end faces of the waveguide extending transversely to the rows to be coupled to the end face (Shown in Figure 4) and a selectively switchable light switch situated between the backlight and entrance face (Column 3, lines 1-24 and Column 4, lines 31-54, wherein the pixels are selectively adjusted by selective electrical potentials, Figures 1-2).

Regarding claim 5, Jelley et al further discloses that the illumination system includes sub-segments (Column 5, line 51-Column 6, line 31, wherein the waveguide “102” is broken down into sub-segments as shown in Figure 4) and a backlight with an entrance face for the sub-segments (Column 1, lines 40-57, wherein the liquid crystal is illuminated by a backlight, and Column 5, line 51-Column 6, line 31, wherein the waveguide “102” receives light from a backside illuminator “100”, Figures 1-2 and 4), while light from the backlight can be coupled into the sub-segments (Shown in Figure 4).

Regarding claim 6, Jelley et al further discloses that light from the backlight can be coupled in along an entrance face extending at an angle to the exit face (Shown in Figure 2, wherein the exit face includes exit faces “48”, which form angles to the entrance face “42”), and switches are situated between the backlight and the waveguide (Column 3, lines 1-24 and Column 4, lines 31-54, wherein the pixels are selectively adjusted by selective electrical potentials, Figures 1-2).

Regarding claim 9, Jelley et al further discloses that the illumination system includes a backlight having an entrance face for light into the optical waveguide to be coupled into an entrance face extending transversely to the exit face (Column 1, lines 40-57, wherein the liquid

Art Unit: 2873

crystal is illuminated by a backlight, and Column 5, line 51-Column 6, line 31, wherein the waveguide “102” receives light from a backside illuminator “100”, Figures 1-2 and 4), wherein parts of the backlight are selectively switchable between an on-state, having high intensity, and an off-state (Column 3, lines 1-24 and Column 4, lines 31-54, wherein the pixels are selectively adjusted by selective electrical potentials, Figures 1-2).

Regarding claim 11, Jelley et al further discloses that the display unit includes a drive unit capable of presenting signals to data and column electrodes for the purpose of writing pixels, and selectively activating a part of the illumination system associated with the group of rows of pixels (Column 3, lines 1-24 and Column 4, lines 31-54, wherein the pixels are selectively adjusted by selective electrical potentials to the electrodes “30”, Figures 1-2).

Regarding claim 12, Jelley et al discloses a display device as shown above, but does not specifically disclose that the drive unit introduces a delay between the presentation of signals to the data and column electrodes and the selective activation of the part of the illumination system associated with the group of rows of pixels. However, it is inherent that a delay would be introduced, this being reasonably based upon the fact that the electrical signals must pass through wires to the electrodes and therefore a delay would occur between the initiation of the signal and the activation of the illumination system.

Regarding claims 4, 8, and 22, Jelley et al further discloses that the switch includes an electro-optical switching device (Column 3, lines 1-24 and Column 4, lines 31-54, wherein the pixels are selectively adjusted by selective electrical potentials, Figures 1-2) with an electro-optic material between the substrates (Column 2, lines 22-68, wherein the electro-optic material is

liquid crystal material "20", Figures 1-2), wherein at least one substrate has strip-shaped electrodes (Figure 1, wherein the electrodes are "30").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jelley et al in view of Deacon et al.

Regarding claims 7 and 10, Jelley et al discloses a display device as shown above, but does not specifically disclose that the switch includes a switchable reflective mirror or that the backlight comprises a prismatic element. Deacon et al teaches of a laser array to illuminate a waveguide for a display wherein mirrors and prismatic structures are used to increase the efficiency of the connection between the laser diode array and the waveguide (Column 20, lines 28-53). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the display device of Jelley et al to further include the switch having a switchable reflective mirror and the backlight comprising a prismatic element since Deacon et al teaches of laser array to illuminate a waveguide for a display wherein mirrors and prismatic structures are used to increase the efficiency of the connection between the laser diode array and the waveguide.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Romanovsky and Izumi et al are cited as having some similar structure to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica T. Stultz whose telephone number is (571) 272-2339. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jessica Stultz
Patent Examiner
AU 2873
July 7, 2005



JORDAN SCHWARTZ
PRIMARY EXAMINER